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The Persistence-Resilience Trade-off in Unemployment: The Role of Labor and Product Market Institutions

Tolga Aksoy
Paolo Manasse

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The Persistence-Resilience Trade-off in Unemployment: The Role of Labor and Product Market Institutions[1]

Tolga Aksoy* and Paolo Manasse**[2]

Abstract: The "great recession" has affected labor markets in Euro-area countries in very different ways. This chapter documents two important aspects of their response: the impact effect of the recession on the rate of unemployment, and the persistence of high unemployment. We find that countries lie on a trade-off between "resilience" and "persistence": countries where the rate of unemployment is less affected on impact by output shocks (resilience) typically show higher unemployment persistence. We investigate the role of labor and product market institutions, and find evidence that more protected markets are associated to more resilience at the expense of more persistence. This suggests that implementing front loaded "structural reforms" at times of a fiscal consolidation, as many Southern European countries did during the recent crisis, may foster the rise in unemployment and possibly undermine the political support for the reforms. When we estimate the contribution of product and labor market reforms to the rise of unemployment in Southern Europe, however, we find positive, but relatively small effects that are quickly reversed.

Keywords: Structural Reforms, Economic Crisis, Banking Crisis, Labor Market Reforms, Product Market Reforms, Banking Sector Reforms

JEL Classification:E02, E65

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[2] * Yildiz Technical University, Davutpasa Campus, Economics Department, 34220, Esenler, Istanbul, Turkey
** University of Bologna, Economics Department, P.za Scaravilli, 1, 40100 Bologna, Italy

Non-Technical Summary

Southern European countries went through a very painful process of fiscal consolidation, debt and bank restructuring, credit squeeze and recession, and, under pressure from creditors, started an ambitious and politically sensitive program of reforms stretching from the public sector to credit, labor, and product markets. These countries experienced their worst recession since WWII, with unemployment soaring to unprecedented levels. The jury is still out on the role of austerity. Opinions differ also on the role structural reforms(see the discussion in the introductory chapter of this book). Some for example, consider that the reforms were insufficient, not fully implemented, or were not fully credible, while other critics blame them for being too radical, unfocused, wrongly sequenced, or counter-productive in terms of the short run effects on the economy. Given that many adverse shocks were affecting these economies at the same time, it not easy to isolate the role, if any, of the reforms.

And yet while unemployment soared in all Southern European countries during the crisis, the impact of the output squeeze on the labor market as well as the persistence of high unemployment rates differed sharply among countries, with Spain and Cyprus displaying the largest short run elasticity of unemployment to output, but also the fastest speed of adjustment, and the opposite in Greece, Italy and Portugal.

In this paper we analyze the response of the labor markets in the Eurozone. First, we document two important aspects of this response: the resilience of unemployment to output shocks, and the persistence of shocks to unemployment. We find that most countries of the Eurozone lie on a trade-off between resilience and persistence: countries where the rate of unemployment is less affected on impact, displaying thus higher resilience, typically also show higher unemployment persistence.

In order to isolate the effects of structural reforms on the working of the labor market, we investigate empirically the role of employment protection, centralization of wage bargaining and of product market institutions, in affecting unemployment as well as its dynamic response to shocks. We find evidence that more protected labor and product markets are characterized by more resilience at the expense of greater persistence, while more competitive markets make employment more vulnerable to output shocks but also experience a faster recovery.

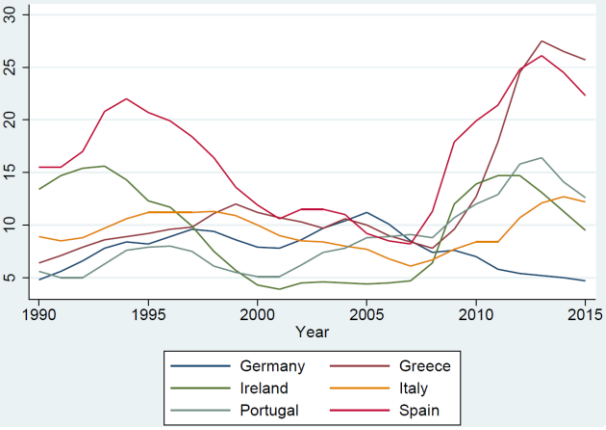
We estimate how much product and labor market reforms may have contributed to the rise of unemployment in Southern Europe, and/or to the faster/slower recovery, by comparing projection of unemployment gaps with an artificial counterfactual of no-reform, obtained by freezing labor and product markets to their pre-2008 situation. For Greece we find that the front-loaded labor market reforms introduced since 2010 account for one (extra) percentage point rise in the unemployment gap. The effect for other Southern European countries are smaller, also in the light of the less pronounced reforms implemented since 2008. The case for Greece is interesting because we also find that the reforms significantly entail a faster recovery relative to the counter-factual scenario, so that after only two years the rate of unemployment becomes lower and more rapidly falling than in the absence of reforms. This is true, although to a lesser extent, also for the other South European countries.

To some extent these results should not come as a surprise: the crisis that hit Southern European countries was unprecedented, summing the effects of harsh fiscal consolidations, sudden stops and current account reversals, wage deflation, sovereign and banks' defaults leading to credit crunches and ending in the worst recession of the post war era. Employment and unemployment changes were, to a first degree, driven by these factors. Our analysis has shown that degree of product and labor market competition can significantly affect the short-run resilience and the medium-run persistence of unemployment in these economies.

1. Introduction

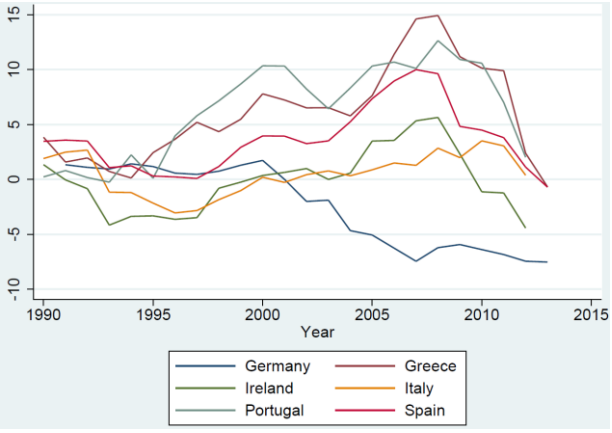
The financial crisis that started in 2008 hit all Eurozone economies and resulted in a very sharp recession and soaring unemployment rates in the area as a whole. The size of the decline in output and jobs, however, was markedly different across countries. Southern Europe, Ireland and the Baltic Republics were dramatically hit, while other Central and Northern European countries were only mildly touched. Figure 1 shows the impressive divergence in unemployment rates between Southern European countries and Ireland, on the one hand, and Germany, on the other, where unemployment actually declined. The reasons that made the former group more vulnerable are well known. Before the crisis, large capital inflows financed very large current account imbalances, between 10 to 15 percent of GDP, in Spain, Portugal and Greece (see Figure 2). Foreign borrowing translated into excessive domestic lending, and led to a real estate bubble (in Spain and Ireland), to excessive risk taking and bank exposure to private and public debt, and to large explicit and implicit fiscal liabilities for sovereigns. In Greece, Italy and Portugal, sluggish productivity growth, fiscal proclivity and political instability were crucial sources of vulnerability. A sudden stop in capital flows and a simultaneous segmentation of the European inter-bank market gave rise to a run on banks (Ireland, Spain and later Greece) and on sovereign debts (Greece, Ireland, Portugal, Italy). The credit crunch and the austerity measures that followed pushed these countries into their worst recession of the post-war period. International Financial Institutions, in exchange for support, pushed these countries to adopt "structural reforms" while implementing the fiscal consolidation measures.

Figure 1: Unemployment Rates



Source: AMECO Database.

Figure 2: Current Account Deficits % GDP



Notes: Positive values indicate deficits. Source: IMF.

In fact, these reforms programs covered a large variety of measures, broadly aimed at improving the supply-side of the economy and the efficiency of the public sector: for example reducing entry barriers and de-regulating product and services markets, reducing firing and hiring cost for firms, de-centralizing wage bargaining, reducing public employment, fighting tax evasion/elusion, reforming the judiciary, eliminating red tape, privatizing state assets and companies. The idea behind the new structural reforms "consensus", pioneered by the OECD and later shared by the "troika", the European Commission, the ECB and the IMF, was

that many of the problem-countries were characterized by decades of stagnant productivity growth. A "supply-side" boost would contrast the recessionary impact of the fiscal squeeze. Many critics of this approach (see for example Rodrik 2016), objected that: a) these reforms work only in the long run by raising potential output, so that they are ineffective, ~~in~~ if not costly, in the short run; b) reforms should be targeted at removing few, well specified constraints to growth, rather than being applied across the board, where they are less likely to be effective and more likely to undermine political support

In this paper we focus on labor and product markets. First, we document that unemployment rates in the Eurozone countries have responded very differently to the "great recession". We focus on two dimensions of this response: the *impact* of output shocks on the rate of unemployment (resilience), and the *speed of recovery* (persistence) of unemployment following a shock. By estimating a "dynamic" Okun regression relating output and unemployment gaps ~~changes~~ , we show that the Eurozone countries lie on a trade-off between resilience and persistence. Countries that are characterized by more resilience typically show more unemployment persistence. Furthermore, we show that a country's position along the trade-off is related to the characteristics of its labor and product markets institutions. We find that more regulated product and labor markets (less "flexible") tend to cushion employment in the short-run (more resilience) but lead to slower recovery (more persistence) in the medium term. Among Southern European countries, Spain and Italy exemplify two extreme cases, Italy representing an example of high short-run resilience and high medium-run persistence ("rigid" labor and "regulated" product markets), and Spain representing the opposite case of "flexible" markets, with large impact but fast recovery.

This finding is important in the general discussion of the effects of reforms on society's welfare, since with "flexible" markets, consumers, workers and firms may suffer from large employment and output volatility, but may benefit from faster recovery. It has also strong implications for the debate on structural reforms: have the labor and product market reforms hastily implemented during the crisis in Southern European countries aggravated the employment consequences of their fiscal consolidation? Our estimates suggest that they did, but we find that the effect is small and short-lived. On impact, structural reforms account for about one extra percentage point rise in the unemployment gap in Greece, and for even less in other Southern European countries. However, we find that the reforms have contributed to a faster recovery from unemployment with positive effects materializing after two years.

The plan of the paper is the following. In Section 2 we review the relevant literature. In Section 3 and 4 we present some stylized facts on the unemployment and output dynamics as well on the structural reforms implemented in the Eurozone countries, focusing on the labor and product markets. In Section 5 we report the estimation results, and in Section 6 we use them in order to measure the consequences of structural reforms on the unemployment rate. Section 7 concludes the chapter.

2. A Brief Literature Review

This paper brings together three different strands of literature. The first is the literature on the "causes and persistence" of high unemployment rates in Europe, dating back from the early 80's, when Europe, unlike the US, suffered from a prolonged period of high unemployment, and when the term "Euro-sclerosis" became fashionable. The early contributions highlighted the role of macroeconomic shocks, such as the oil crises (see Bruno and Sachs, 1985); the literature that followed focused on features of the labor market such as the wage

bargaining process, the role of unions and "insiders", and "hysteresis", e.g. the persistence of high unemployment following transitory shocks. Labor market institutions that are associated to high firing and hiring costs, are discussed for example in Bentolila and Bertola (2001): they may cushion employment from negative shocks in the short run, but may also slow down the employment recovery, as firms are less willing to hire in good times if they cannot shed labor in bad times. Similarly, a wage bargaining system where insiders play an important role in determining the wage rate, and where the wage rate is largely independent of firms' productivity and of unemployment, may be associated to real wage rigidity and to high and persistent unemployment rates (see the "hysteresis" effect discussed in Blanchard and Summers 1986). A centralized wage bargaining may have ambiguous effect on labor market outcomes: either a very centralized or a very decentralized system may in principle achieve wage moderation and deliver lower/less persistent unemployment, either via coordination or via competition (see Calmfors and Driffill 1987). More recently, the role of labor market institutions such as employment protection legislation has come to the fore (see Blanchard 2001 and 2006 for a discussion). An impulse to this literature has come from the OECD, who has provided new indicators and new evidence for the importance of the institutions of the labor and product market in developed economies (see OECD Employment Outlook 2004, 2015, and Conway P. and G. Nicoletti 2006). Blanchard and Giavazzi (2001), argue that the interaction of the product and labor markets play an important role. Lower barriers to entry may raise the equilibrium number of firms, reduce their market power and lead to more employment in the long run; product market deregulation may also reduce the rents that are shared by firms and unions, so that the latter may have a weaker incentive to bargain for a higher wage.

The second strand of relevant literature concerns the effects of "structural reforms" in developing and developed countries. Early contributions discuss episodes of liberalizations in Asia, Africa, Latin America and in the ex-Soviet Republics. Eicher and Schreiber (2010) suggest that pro-market reforms introduced in the 90's in transition countries, such as deregulation in the product market, privatization of state assets and services, removal of state-fixed pricing, the creation of a private financial sector, the introduction of competition in the banking sector and of an effective system of prudential supervision, were positively associated to growth. Eslava et al. (2004), find that social security, labor and financial markets reform introduced in Colombia in the '90s had a positive effect on Total Factor Productivity. Ospina and Schiffbauers (2010), suggest that product market reforms in emerging markets have substantially raised productivity growth, as much as 12 percent in some countries. For industrialized countries, Alesina et al. (2005) argue that product market reforms such as the reduction of entry barriers and privatization tend to raise investment; Griffith and Harrison (2004), find positive effects on employment. Di Tella and MacCulloch (2005), find that reducing the Employment Protection Legislation (EPL) in the labor market stimulates employment and labor force participation.

Some studies find evidence that structural reforms may involve short-run costs in terms of negative growth rate or unemployment. For example, pro-market reforms have short-terms costs with regard to lower growth during the initial year, but promote growth from the second year onwards in transition countries (see Staehr, 2005). Similarly, Cacciatore et al. (2015), for developed countries, find that lower firing costs and lower entry barriers reduce initially the entry of firms in the product market and lead to large layoffs of the least productive workers in the short run. A number of studies find that labor market liberalizations have negative effects on employment, when they are introduced during unfavorable economic conditions. This holds for cuts in unemployment benefit, (see Bouis et al. 2012 and IMF WEO 2015), and for reforms in the employment protection legislation, EPL (see IMF WEO 2015).

The third strand of literature that is relevant for our paper concerns the relationship between unemployment and output changes, the so-called Okun law. The Okun Law is a simple reduced-form equation which posits an empirical relationship between the change in unemployment and the change in output. For the US, the typical rule-of-thumb is that a 1% fall of GDP relative to potential output is associated to 0,5% rise in the unemployment rate (see Mankiw 2012). Many authors have questioned the stability of this relationship over time, claiming for example that the recent recovery in the US was a "job-less recovery"(see Gordon 2011, Cazes et al. 2011, and IMF 2010). However, recent evidence finds that this relationship is remarkably stable over the past decades, and holds significantly in many countries (see Ball et al. 2013). Interestingly, this latter study finds that the Okun law's parameters appear quite different across countries, but admittedly fails in providing a convincing explanation of these differences in terms of different labor market institutions.

Our analysis brings these strands of research together, and focuses on the role of labor and product market institutions in explaining the cross-country heterogeneity described in the preceding section. We frame the discussion of structural reforms in the Okun "tradition", and we add an element of dynamics in order to describe the impact *and* the persistence of output shocks on the rate of unemployment in different countries. Our results give a rationale for the finding that labor and product market reforms may be associated to employment losses and may involve short run costs. Moreover, we give an explanation for the different response of unemployment in the Eurozone, during the recent crisis. We find that the characteristics of the labor and product markets such as the centralization of wage bargaining, employment protection, and the degree of product market competition affect the resilience of labor markets to output shocks: more "protected" labor and product markets tend to shelter employment from these shocks; however, these same features are associated to a slower "speed of adjustment", so that the employment recovery from a recession is slower the more protected are labor and product markets.

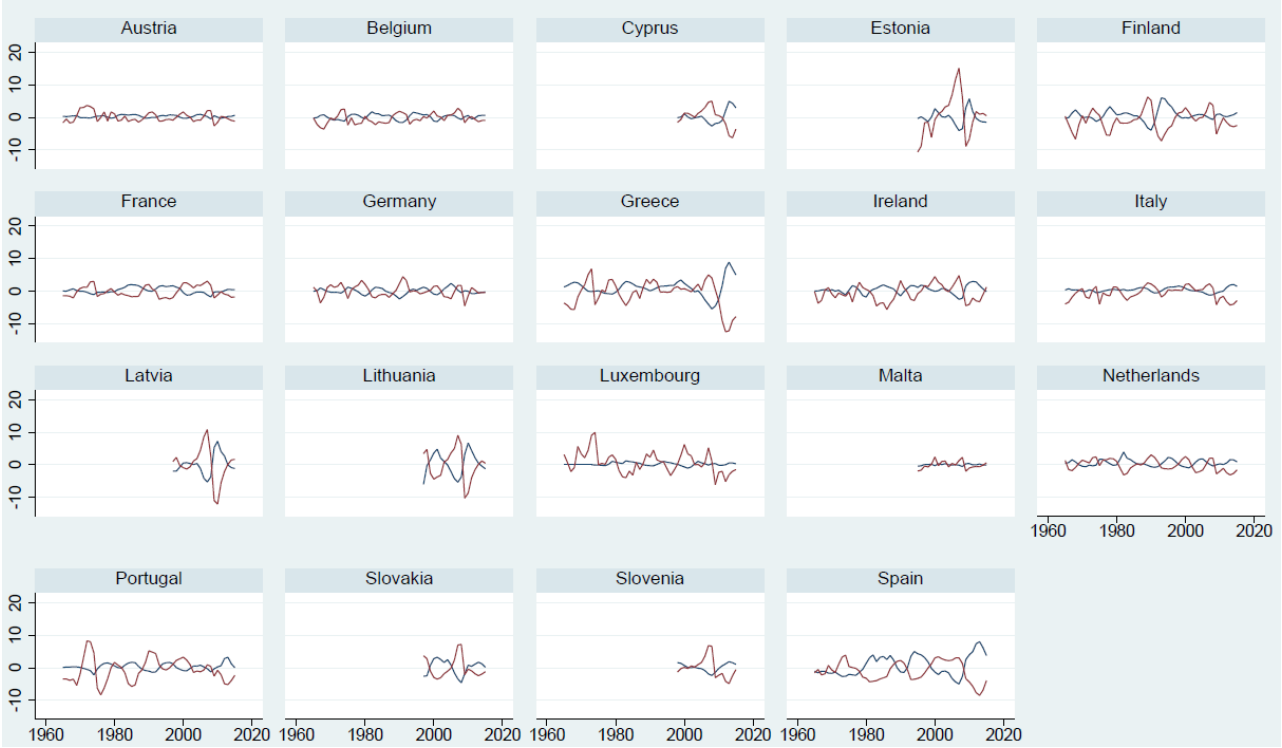
3. Stylized Facts on Unemployment and Output in the Eurozone

This section presents some stylized facts on the labor market response of Eurozone countries to the crisis. Figure 3 shows the evolution of the unemployment gap, the deviation of the unemployment rate from the equilibrium "non - accelerating (wage) - inflation unemployment rate (NAWRU)", and the GDP gap, the difference between the actual and "potential" GDP", for Eurozone countries between 1965 and 2014. The NAWRU is defined as the rate of unemployment that is consistent with stable wages and with an economy that is working at its potential level of output. A positive gap implies that the unemployment rate is above equilibrium level. Regarding the output gap, a negative number denotes an economy operating below potential GDP, which is the level of output consistent with projected productivity growth and historical factor utilization. The two definitions are consistent, so that in principle when output is at potential, e.g. the output gap is zero, the unemployment rate should be at the NAWRU level, so that also the unemployment gap should be zero. The methodology adopted for the gaps' calculations is somewhat controversial. The problem is that potential output is pro-cyclical, e.g. it tends to fall in a downturn: low investment leads to low capital and reduces estimates of potential output. Thus, when real GDP falls, potential output also falls and the output gap under-

estimates the size of the recession. Our results are not affected, however, if this error of measurement affects in a comparable way both the output and the unemployment gaps. In the empirical section we will use both the gaps measures as well as the changes in the unemployment rate and in (the log of) GDP, with similar results. Here we focus on the output and unemployment gaps mainly for two reasons: first because we want to compare our results with those in the literature, where they are commonly used (see for example Gordon 2011); secondly we are interested in the speed of adjustment to some long-run equilibrium in the labor market, and output and unemployment gaps lend themselves to this interpretation.

Figure 3 shows these gaps for Eurozone countries between 1965 and 2014. A few things emerge quite clearly . First, *the changes in unemployment(gaps) largely reflect output(gaps) movements*: the unemployment gap unsurprisingly rises by more in countries that experience larger drops in the output gap. Second, over time the two gaps move symmetrically, so that they seem to imply, over time, a stable "Okun Law".

Figure 3: Unemployment and Output gaps in the Eurozone



Source: AMECO database

Countries differ markedly as to the size and in the persistence of shocks. Columns 1 and 2 of Table 1 show the peak-to-trough change in the unemployment rate and in GDP, respectively, during the crisis. The numbers confirm the visual impression of the previous picture, with unemployment peaks largely reflecting GDP losses. In particular Greece, the Baltic Republics, Luxembourg and Malta stand out as the countries that suffered the largest GDP losses, about 26% in Greece, 17% in Baltic countries and 13% in Luxembourg and Malta; the rise in unemployment rate was particularly severe in Greece, Spain and in the Baltic Republics. It was surprisingly muted in Luxembourg and Malta.

The last column of the table shows another interesting measure of the labor markets response to the recent crisis: the average elasticity of the rate of unemployment to output. This is calculated by simply dividing column 1 by column 2 (with the minus sign).

Table 1: GDP and unemployment losses in Eurozone countries, 2008-2014

Country	Unemployment Change, peak-trough(1)	GDP Change, peak-trough (2)	Unemployment change/GDP change (-1/2)
Austria	1.50	-5.92	0.25
Belgium	1.50	-5.77	0.26
Cyprus	12.40	-10.79	1.15
Estonia	11.20	-17.48	0.64
Finland	2.30	-8.27	0.28
France	2.90	-4.90	0.59
Germany	2.60	-9.41	0.28
Greece	19.70	-26.24	0.75
Ireland	8.30	-9.15	0.91
Italy	6.00	-8.08	0.74
Latvia	11.80	-17.59	0.67
Lithuania	12.00	-16.25	0.74
Luxembourg	1.40	-14.31	0.10
Malta	1.00	-14.99	0.07
Netherlands	3.70	-3.77	0.98
Portugal	7.60	-7.90	0.96
Slovakia	4.90	-12.35	0.40
Slovenia	5.70	-9.57	0.60
Spain	14.80	-8.58	1.72

Source: AMECO database

The largest elasticity of unemployment to GDP is found in Spain, 1.72, followed by Cyprus, the Netherlands, Portugal and Ireland which are close to unity; the lowest unemployment elasticity to GDP is found in Malta and Luxembourg (0.07, and 0.10 respectively). In the following section we will refer to "resilience" to indicate that unemployment in a particular country shows a relatively small elasticity to GDP changes. In the next section we will discuss another feature of national labor markets, unemployment "persistence". By this we mean a country's relatively slow adjustment of unemployment following an output shock..

4. Resilience and Persistence: Econometric Analysis

Our aim here is to measure the speed of recovery of the unemployment rate following a shock in different countries of the Euro area, and to relate this to "resilience". We will show that typically labor markets that are more "resilient" following a shock are also slower to recover. In order to do so, we estimate an Okun-type relationship separately for 19 countries in the Eurozone, using OECD annual data from 1965 to 2014. We focus on the cross-country differences in the parameters. The next step will be to relate these parameters to country-specific labor and product market characteristics.

Unlike previous studies that only consider the "short run" impact of output on unemployment in the standard Okun relationship, we add a minimum amount of dynamics so as to evaluate speed of adjustment towards the long run equilibrium (the parameter α below). For each country separately we estimate the following model:

$$(1) \quad u_{it} - u_{it}^{p} = \beta_i\left(y_{it} - y_{it}^{p}\right) + \alpha_i\left(u_{it-1} - u_{it-1}^{p}\right) + v_{it} \qquad i = 1..C, \qquad t = 1,..T$$

where u_{it} is unemployment rate at time *t=1..T* in country *i=1..C* , y_{it} is the logarithm of real GDP of country i at time t, u_{it}^{p} is the NAWRU, y_{it}^{p} the log of potential real GDP, and v_{it} denotes a stochastic disturbance term at time t for country i. Equation (1) says that the deviation of the unemployment rate from the "equilibrium" level, the unemployment gap, depends on the "cyclical" deviation of output from potential, the output gap, $y_{it} - y_{it}^{p}$, and on the lagged unemployment gap. A long-run equilibrium in this model occurs when $u_{it} = u_{it}^{p}$, $y_t = y_{it}^{p}$ for all t. In order to check the robustness of our result we also estimate a different specification where the first difference in the unemployment rate and the rate of growth of output replaces the corresponding gaps (see Appendix). The coefficient β_i , which is negative a-priori, measures the impact of deviations of output from potential on unemployment gaps in each country: the smaller this parameter is, the more *resilient* is the country's unemployment rate to output shocks; parameter α_i, which should be less than one in absolute value for stability reasons, measures the persistence of the unemployment response. The closer this parameter is to one in absolute value, the more *persistent* is the unemployment deviation from the equilibrium, i.e. the slowest the return to the equilibrium following a shock. In the limit where $|\alpha_i| = 1$, a temporary shock has permanent consequences on unemployment ("hysteresis"). This specification allows us to calculate statistics such as the time required for unemployment to adjust, say, half-way, back to its long run equilibrium. This is simply given by the expression $T^*(i) = -\frac{\ln(2)}{\ln(\alpha_i)}$.[3]This statistic considers a purely temporary and idiosyncratic unemployment shock, e.g. one that lasts only one period and does not affect output directly. Thus, it clearly underestimates the actual persistence of unemployment in a country, since typically shocks, e.g. fiscal ones, are long lasting and affect output and the labor market at the same time. Nevertheless, this is a useful indicator for assessing how national labor markets respond to the same hypothetical shock. The indicator is increasing in α_i , the persistence parameter, and tends to infinity as α_i tends to one.

Table ~~3~~ **2** shows the estimates for the impact (β_i) and the persistence (α_i) parameters, obtained by country-by-country regression using OLS, over the period 1965-2015. These parameters are significantly different from zero, and have the expected sign in all countries (the parameter α_i is not statistically different from zero only in Malta). We have checked that the parameters are stable through the decades, and we can reject the presence of structural breaks when we consider subsamples starting in 1975, 1985, 1995, and 2005 for all countries. The table illustrates the heterogeneity of "Okun laws" across the Eurozone.

[3] This formula can be derived as follows: consider an initial situation where the unemployment rate and output are at their equilibrium values, and a temporary shock at time 0, v_0, raises the unemployment rate. After T periods the unemployment rate will deviate from its natural level by $\alpha^T v_0$. Provided $|\alpha| < 1$, the rate of unemployment will have converged half-way back to the equilibrium at time T*, where T* satisfies $\alpha^{T*} v_0 = \frac{1}{2} v_0$. Simplifying and taking logs gives the expression in the text.

Table 2: Okun Coefficients in the Eurozone (Gap regression)

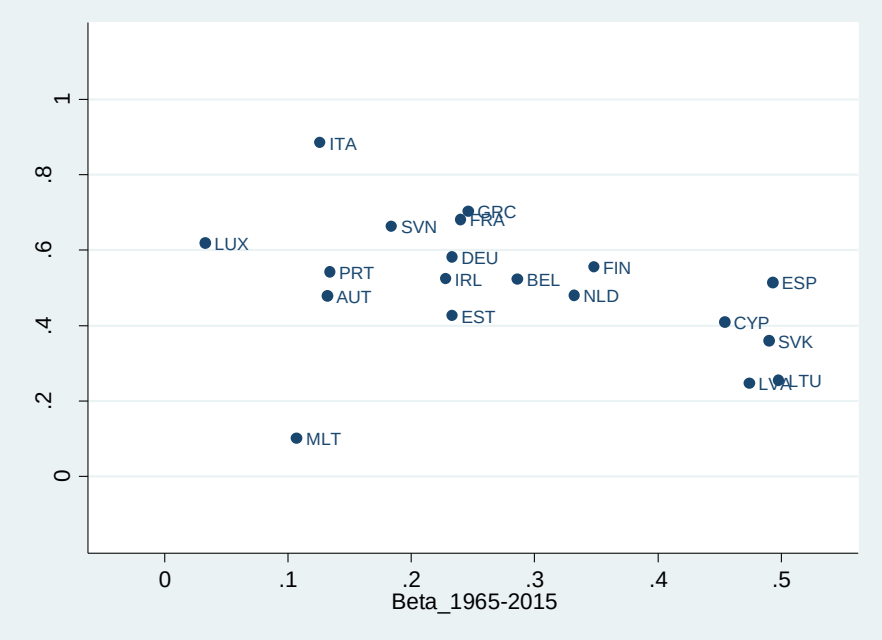
country	beta	alpha	Half_way_time
Austria	0.132***	0.479***	0.942
Belgium	0.286***	0.523***	1.069
Cyprus	0.454***	0.409***	0.775
Estonia	0.233***	0.426***	0.812
Finland	0.348***	0.555***	1.177
France	0.24***	0.682***	1.811
Germany	0.233***	0.582***	1.281
Greece	0.246***	0.702***	1.959
Ireland	0.228***	0.524***	1.073
Italy	0.126***	0.885***	5.674
Latvia	0.474***	0.247***	0.496
Lithuania	0.498***	0.255**	0.507
Luxembourg	0.033**	0.619***	1.445
Malta	0.107**	0.101	0.302
Netherlands	0.332***	0.48***	0.944
Portugal	0.134***	0.542***	1.132
Slovakia	0.49***	0.36***	0.678
Slovenia	0.184***	0.663***	1.687
Spain	0.493***	0.515***	1.045

Notes: alpha in absolute value. *** significant at 1%; ** significant at 5%; * significant at 10%. Source: Authors' calculations.

Consistently with the peak to-trough elasticities previously reported, the estimated impact effect of the cyclical output gap on the unemployment gap is large in Spain, Cyprus, and in the "new" Euro members such as Latvia, Lithuania, and Slovakia. In these countries a one percent output fall relative to potential is associated, within a year, to about half of a percent rise in the unemployment gap, similarly to the "standard" estimates obtained for the US; conversely, the unemployment response is very small in Malta, Luxembourg and Austria, as well as in the other Mediterranean countries such as Italy Portugal and Greece.

Interestingly, many of the countries in the first group, the least "resilient", show a relatively fast rebound of unemployment (a small estimate in absolute value for α_i). This is true for Spain, Cyprus, Estonia, and Slovakia , where it takes a year or less to halve the initial effect. At the other extreme are Greece, France, Germany, and Slovenia, where the persistence of unemployment is very large. Italy has the most sluggish recovery of all, taking 4 years and 8 months to revert half way to the initial equilibrium following an hypothetical temporary shock. Figure 4 illustrates the relationship between "resilience" and "persistence". Each country is represented by a dot: the coordinates are, on the vertical axis, the estimated β coefficient (in absolute value) representing the size of the impact response of unemployment to output; on the horizontal axis, the estimated α coefficient, in absolute value, measuring the persistence of the shock. *The evidence suggests a trade-off: where the impact effect of output on unemployment is smaller (low beta, i.e. high resilience), unemployment is more persistent (high alpha).* Malta appears to be an outlier (but remember that the persistence parameter is very imprecisely estimated). The correlation and rank correlation between the alpha and the beta (in absolute value) coefficients, omitting Malta, are respectively 0.69 (significant at 0.1% percent) and 0.62 (significant at 0.06%). Southern Mediterranean countries appear either in the upper-right region of large resilience and persistence (Italy, Portugal, and Greece), which is typically associated with "rigid" markets, or in the lower-left region of low resilience and persistence (Cyprus and Spain) which is typically associated with "flexible" markets.

Figure 4: Trade-off between Resilience (low beta) and persistence (high alpha)



The evidence suggests that on average labor markets which are more effective in cushioning employment from output shocks, "pay" this in terms of more persistent unemployment.

In order to assess the robustness of these results, in the Appendix we run an equation which is similar to (1) but where unemployment and output gaps have been replaced with the first time difference of the unemployment rate and of log GDP. The results are very similar to those described here. As mentioned above, we prefer the "gap" specification since it allows an interpretation of in terms of convergence to a long-run equilibrium and it is largely used in the literature.

5. Product and Labor Market Institutions

Our next aim is to understand the role that product and labor market institutions play in this trade-off. We want to test the hypothesis that "more regulated" labor and product markets may, on the one hand, cushion employment from output shocks, for example preventing lay-offs, insuring labor income, and limiting entry/exit, but may also lead to more "hysteresis", as wage and price rigidities slow down the employment recovery. This section describes the indexes of labor and product market institutions that we use in the following econometric analysis.

For the labor market, we consider the OECD employment protection Legislation index (EPL) and the centralization in wage bargaining index, CWB. The EPL is a synthetic measure of the strictness of regulation on dismissals and of the diffusion of temporary contracts. In particular, it covers the dismissal notification procedures, the delay and length of the notice period, the size of severance payments, the compensation after unfair dismissal and the possibility of reinstatement for employees on regular/indefinite contracts (see OECD Employment Outlook 2004 and 2015). EPL indicators are generally available since 1985.

The CWB indicator is obtained from the Database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts (ICTWSS), see Visser (2015). It describes the predominant level at which wage bargaining takes place, and takes into account the frequency of contracts, the importance of the clauses of collective agreements and the extent to which local agreement can derogate from them. This indicator is a measure of the degree to which wages respond to local conditions (e.g. productivity) or are determined by collective bargaining; it is generally available since 1960.

For product market institutions, we employ the OECD index of regulation (see Conway and Nicoletti 2006). The index measures the pervasiveness of regulation in seven non-manufacturing industries: electricity and gas supply, road freight, air passenger transport, rail transport, post and telecommunications. The index is calculated as the arithmetic average of the following sub-indexes: barriers to entry, public ownership, market share of new entrants, and price controls. All the indicators, in product and labor markets, take values between 0 and 6, with higher values corresponding to more regulation. They capture similar features of the respective markets and are typically highly correlated.

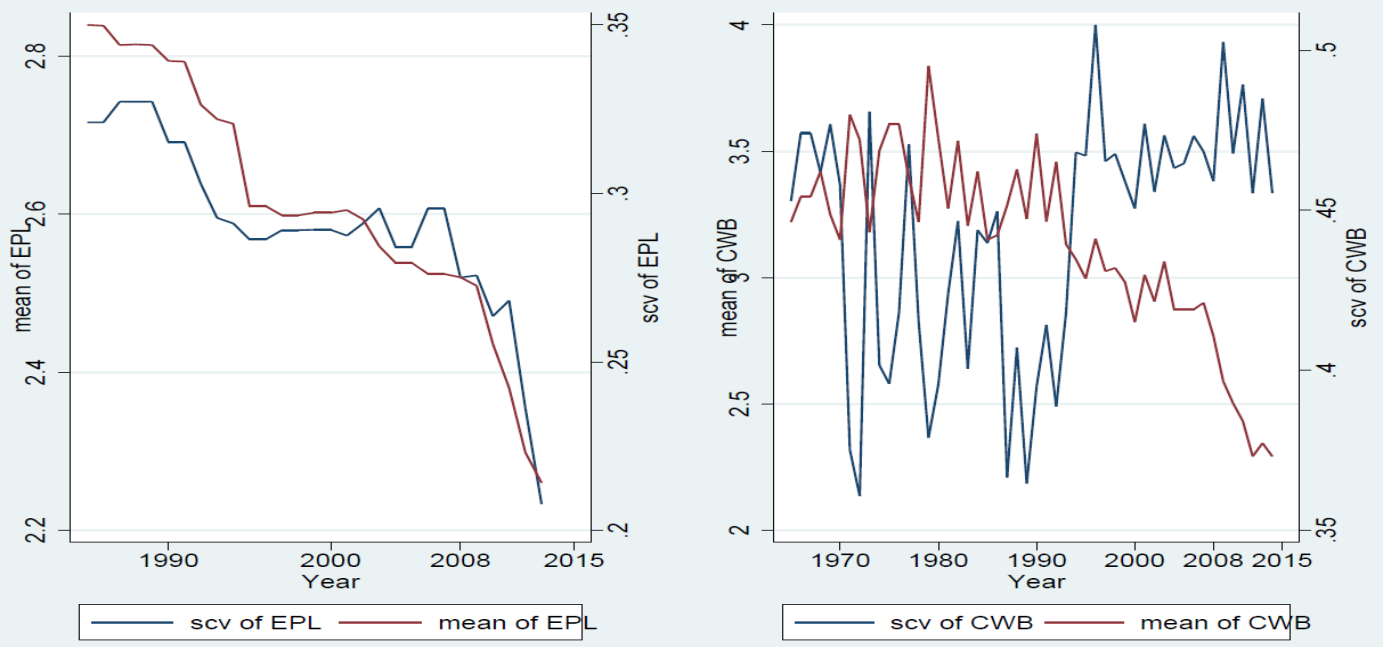
Figure 5 in panel (a) shows the evolution of the average EPL indicator for the Euro area (red line) together with the coefficient of variation, defined as the ratio of the cross-country standard deviation and the average, at a point in time (blue line). European labor protection legislations were reformed in two large waves: the first occurred in the early 1990s, when the average EPL shows a marked decline, and the second in the early years of the crisis, stating in 2008. Interestingly, in both episodes the move towards a more competitive model implied a significant convergence of European labor market institutions, as shown by the fall in the coefficient of variation. Figure 6, panel (a), shows that in both episodes this dynamics was mainly due to the convergence of southern European countries' legislations to that of the other countries. The dismantling of employment protection legislation was particularly rapid and sizable during the recent crisis, possibly as a counterpart to the financial assistance obtained from the European and International Institutions. Similarly, the process of decentralization of wage bargaining started in the 1990s, see Figure 5 (b). Following the first wave of reforms of the 1990s the reform effort of Southern European countries stalled until the crisis, so that the cross-country differences in the degree of centralization in wage bargaining remained quite high, see the blue line. Reforms and convergence re-appeared only in the most recent period.

Product market deregulation also accelerated in the 1990s, following the adoption of Maastricht treaty, the European Single Market Program, and the European Monetary Union (see Boeri 2005). Figure 7 shows that, unlike in the employment protection legislation, there was little convergence in the Eurozone until 2008. As product markets were liberalized over time, cross-countries differences, captured by the cross-country *standard deviation* (not shown) were stable until 2007: the rise in the coefficient of variation simply reflects the fall in the mean product market index (in the denominator). In fact, unlike labor markets, product markets in Southern Europe in the wake of the crisis were already quite similar to those of the rest of the Eurozone, see Figure 8

Figure 5: Labor Markets in the Euro Area

(a) Employment Protection

(b) Centralized Wage Bargaining

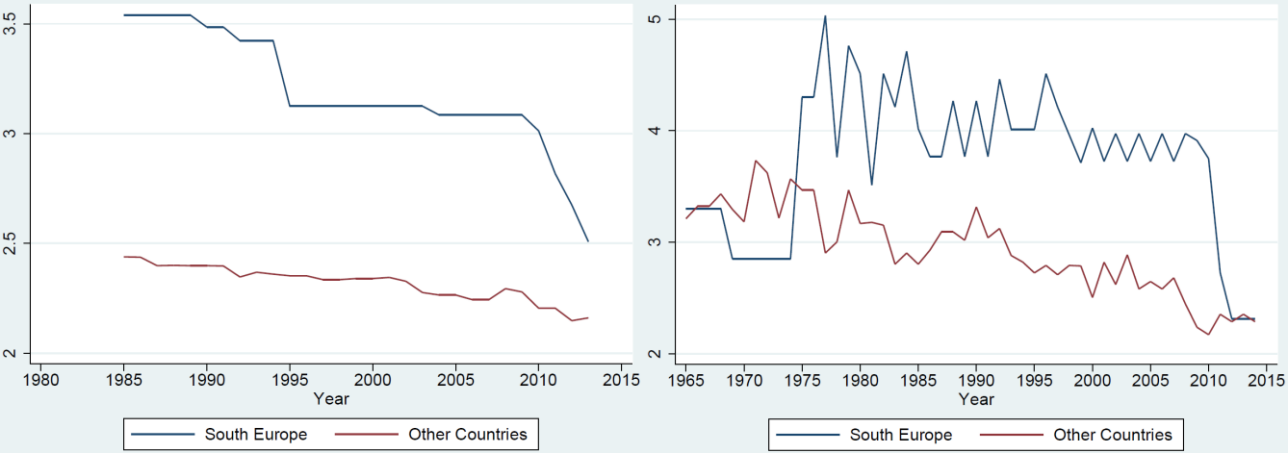


Source: OECD

Figure 6: Labor Markets in Southern Europe

(a) Mean Employment Protection

(b) Mean Centralized Wage Bargaining



Source: OECD

Figure 7: Product Market Regulation in the Euro Area

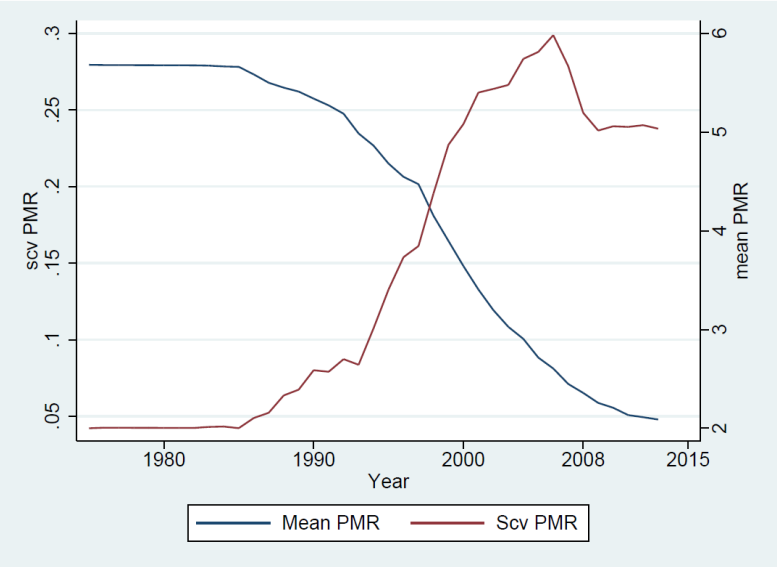
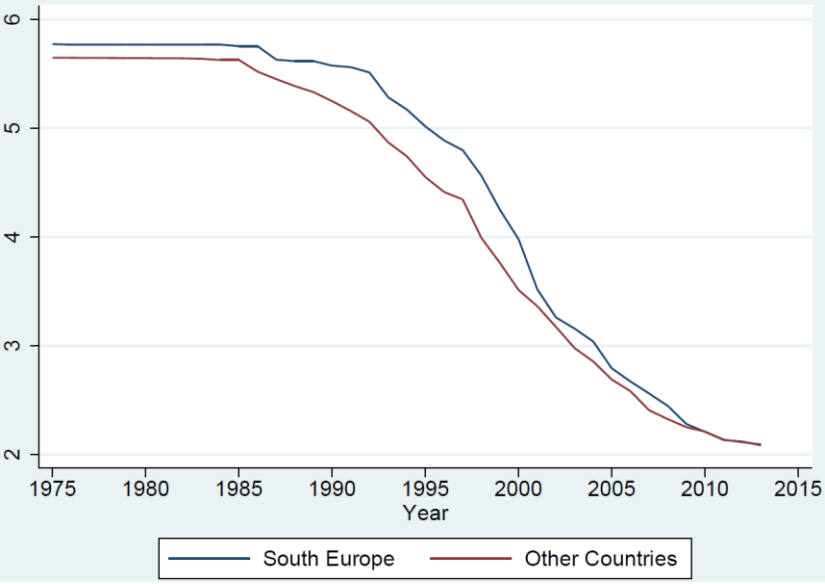


Figure 8: Product Market Regulation in Southern Europe



5.1 Measuring the Role of Labor and Product Market institutions

In this section we want to evaluate the role of labor and product market institutions in explaining the persistence/resilience trade-off. We adopt the following empirical strategy. We assume that the country-specific resilience and persistence coefficients β_{it} and α_{it} depend on "country-specific" characteristics of the labor and product market that may change over-time when reforms are implemented. These include the indexes of employment protection, centralized wage bargaining and product market regulation. These characteristics are summarized by the generic indicator(s), IND_{it} In addition, the parameters may depend on some common factors, summarized by β_0 $and \alpha_0$ below:

$$(2) \qquad \beta_{it} = \beta_0 + \beta_1 IND_{it} \quad \alpha_{it-1} = \alpha_0 + \alpha_1 IND_{it-1}.$$

We also allow for the possibility that our labor and product market indicator(s) may exert a direct effect on the unemployment gap, over and above that on the resilience and persistence parameters. There,fore, we include them in the model of equation (1) Substituting :

$$(3) \quad u_{it} - u_{it}^{p} = (\beta_0 + \beta_1 IND_{it})(y_{it} - y_{it}^{p}) + (\alpha_0 + \alpha_1 \mathrm{IND}_{it-1})(u_{it-1} - u_{it-1}^{p}) + (c_0 + c_1 \mathrm{IND}_{it}) \quad + v_{it}$$

As before, our labor and product market indicators take the value of zero for the "most competitive" case and increase when markets become more heavily regulated. We expect some persistence in unemployment, i.e. $0 \leq \alpha_0 < 1$ and that positive output gaps should negatively affect unemployment gaps, $\beta_0 < 0$. Also, a priori the values of both interaction parameters β_1 and α_1 should be positive. This would imply for example that a more "rigid" labor market (higher value for IND) is associated with more resilience, e.g. a lower impact of output on the unemployment gap (in absolute terms) and withhigher persistence/slower recovery of the unemployment rate. We estimate equation (3) using generalized least squares (GLS) with random effects. We include time (year)-fixed effects but not country-fixed effects, since the latter are already captured by the structural indicators. The results obtained with country fixed effects are very similar and available upon request.

Table 3 presents the results. We start by including in the model one indicator at a time, in order to avoid collinearity problems and tor preserve the sample size. Collinearity stems from the fact that when reforms occur they tend to apply to many markets. Later on we will include more indicators simultaneously. Column 1 presents the baseline regression of the simple unemployment gap on a lag and on the output gap. The estimated coefficients for the GDP gap and the lagged unemployment gap are statistically significant with the expected signs. A one percent rise in the GDP gap is associated with a 0.24 percent decline in unemployment gap. This value is similar to the average of the individual coefficients estimated previously, country by country. In addition, a one percent increase in the lagged unemployment gap carries over to a 0.63 percent rise after one period.

Table 3: Modified Okun law regressions (dependent variable: unemployment gap)

	(1) model1	(2) model2	(3) model3	(4) model4	(5) model5
GDP gap	-0.241***	-0.587***	-0.467***	-0.352***	-0.596***
	(0.043)	(0.063)	(0.107)	(0.076)	(0.075)
Unemployment gap (t-1)	0.627***	0.540***	0.384***	0.341***	0.434***
	(0.061)	(0.058)	(0.144)	(0.086)	(0.097)
PMR		0.041			0.050
		(0.050)			(0.052)
GDP gap*PMR		0.078***			0.078***
		(0.014)			(0.020)
Unemployment gap (t-1)*PMR		0.034***			0.018
		(0.010)			(0.011)
EPL			-0.009		
			(0.032)		
GDP gap*EPL			0.050		
			(0.030)		
Unemployment gap (t-1)*EPL			0.107*		
			(0.060)		
CWB				-0.060***	-0.036*
				(0.023)	(0.019)
GDP gap*CWB				0.035*	0.001
				(0.018)	(0.020)
Unemployment gap (t-1)*CWB				0.100***	0.045*
				(0.021)	(0.023)
Constant	-0.422***	-0.495**	-0.158	-0.190	-0.355*
	(0.139)	(0.209)	(0.144)	(0.131)	(0.213)
Observations	728	499	347	677	494
R^2	?	?	?	?	?

Note:- All regressions are estimated with Random Effects with year fixed effects. *=significant at 10%, **= significant at 5%, ***=significant at 1%

The second column adds the product market regulation index (PMR) and its interactions with the output and lagged unemployment gaps to the explanatory variables. Relative to the first regression ,the output gap coefficient becomes larger (-0.587 against -0.241) in absolute value, while the persistence coefficient is somewhat reduced. The first effect is due to the fact that introducing the PMR index allows for the heterogeneity among countries. The "total" impact effect of the output gap on the unemployment gap now equals -0.587+0.078*PMR, which takes the largest value (-0.587) for the least regulated (PMR=0) market, and the smallest value (= -0.12) for the most regulated one (PMR=6), confirming our a priori that a more regulated market is associated to a more "resilient" labor market. The PMR interaction with the lagged unemployment gap shows that a more regulated market is characterized by higher unemployment persistence (the α parameters now can take values in the range of 0.54+0.034*6= 0.74 for the theoretically most regulated product market, corresponding to a half-time adjustment $T^*(i)$ =2.3 years, to α =0.54 for the least regulated, implying $T^*(i)$ =1.1 years). Conversely, the PMR has no significant independent effect on the level of the unemployment gap.

The third column shows the results for the employment protection legislation (EPL) indicator. This index is not available for many years so that the number of observations shrinks from 728 in the first regression to only 347. The table shows that the EPL interaction term with the lagged unemployment gap is large and statistically significant (at 10 percent confidence), implying that employment protection has a potentially very large effect on perisistence. A country with the smallest possible degree of labor regulation (EPL=0) would take $T^*(i)$ =0.72 years to revert half-way to equilibrium following a unit temporary shock to unemployment, compared to $T^*(i) = 32$ years (!) for the (theoretically) most regulated country (EPL=6)). The estimates do not show any significant effect of EPL on either the resilience parameter, the β_1 coefficient in equation (3), nor a significant EPL level effect on the dependent variable. Thus, this result implies that a labor legislation more oriented to employment protection is associated with a higher duration of unemployment but does not significantly "protect" the labor market from demand shocks in the short run.

In column 4 we report the results for the index of centralized wage bargaining, CWB. A more centralized system is associated with a lower impact of the output on the unemployment gap. In fact, the impact effect is lowest (-0.14 percent =-0.352+0.035*6) for the most centralized bargaining system, and largest for the most decentralized one (- 0.352). On the other hand, consistently with the previous results, a more centralized bargaining system is associated with larger persistence of the unemployment gap. The coefficient of the CWB-unemployment-gap interaction is positive and sizable (0.1), and implies that the half-time adjustment ranges from 0.64 years for theoretically least centralized system (CWB=0) to 11 years for the most centralized one (CWB=6). Unlike other indicators, the level of CWB is significantly and negatively associated with the unemployment gap.

Finally, column 5 shows the estimates obtained when we add the product market indicator PMR together with the centralized bargaining indicator CWB (we do not include EPL indicator because of collinearity problems and lack of observations). We find that higher regulation of the product market, PMR, increases resilience by reducing the output effect on unemployment exactly by the same amount found in the previous regression in column (2), while the CWB index raises again the persistence effect, although by less than previously estimated, compare columns (4) and (5).

In the Appendix we repeat the analysis using a specification that replaces unemployment and output gaps with their first/log differences, respectively (see Table A2). We obtain coefficients of the same sign as those discussed, but the estimates of the lagged unemployment interactions, measuring the persistence effect, are less precise (have p-values higher than 10 percent). In the case of the last model of column 5, this alternative specification has "wrong", e.g. negative, sign for the CWB-lagged unemployment interaction.

Summarizing, we find that the persistence-resilience trade-off in unemployment that we have documented in the previous section can be meaningfully explained by the different national labor and product market institutions of the Euro-area's countries. More regulated markets tend to display higher resilience, e.g. a lower response of unemployment to output shocks , and higher persistence of unemployment.

6. The Estimated Effects of Structural Reforms on Unemployment in Southern Europe

Given the book's focus on structural reforms in Southern European countries, one important question is whether the structural reforms hastily introduced by these countries during the crisis have affected, over and above the austerity measures, the size and persistence of the unemployment rate. In order to answer this question we adopt the following methodology. We calculate the predicted unemployment gap (estimated from the regression in column 5, in Table 3), assuming that both the output gap and the structural indicators take their actual realizations, the latter reflecting the effects of structural reform; we compare these values with those obtained calculating a "counterfactual" unemployment gap, that is obtained for the same values of the output gaps, when the structural indicators are frozen at their 2007 values, in a "no reform" scenario. The difference between the predicted and counter-factual unemployment gap gives an imperfect measure of the impact of structural reforms on unemployment gaps that is not affected by other policy measures, such as fiscal policy, that mostly affect the labor market through output (note that these calculations assume that structural reforms do not directly affect actual and potential output).

Greece

Some of the reforms recently implemented in Greece are described in this book's Chapter 8 Figure 9 shows the results of our counter-factual analysis. The indexes of product market regulation and wage centralization are shown in Panel a, while Panel b shows the difference between the predicted ("with reforms") and the counterfactual ("no-reforms") unemployment gap. We see that the product market reforms that occurred since the crisis are not as substantial as those of the labor market (see Manasse, 2015 for a discussion). Conversely, the large wave of labor market deregulation occurring in 2010 is associated with a large increase in the actual unemployment relative to the counterfactual, with a differential reaching 1.1 percentage points in 2011. According to our previous results, this reflects the fact that the reforms reduced the resilience of the labor market by raising the impact of output shocks on unemployment. However, we also see that as soon as 2013 the differential turns negative, suggesting that a "positive" effect of the reforms eventually kicks in, by reducing the unemployment persistence. While these effects are not large, the actual and counterfactual unemployment gaps are found significantly different in mean.

Italy

Figure 10 shows that the labor market reforms that were introduced in 2009 were quite timid and gradual and some liberalization of product markets occured in the same years, although far less effective than in the other countries considered here. The effect was to raise the actual level of unemployment by a tenth of a percentage point (these estimates do not include the "jobs act" labor reform introduced in Italy only in 2014-15). At the same time there is no "catching-up" so that there appears to be little positive effects in terms of gained speed of recovery.

Figure 9: Reforms and Unemployment: Greece

Panel (a): CWB and PMR indicators

Panel (b): Difference (Actual and Counterfactual) Unemployment

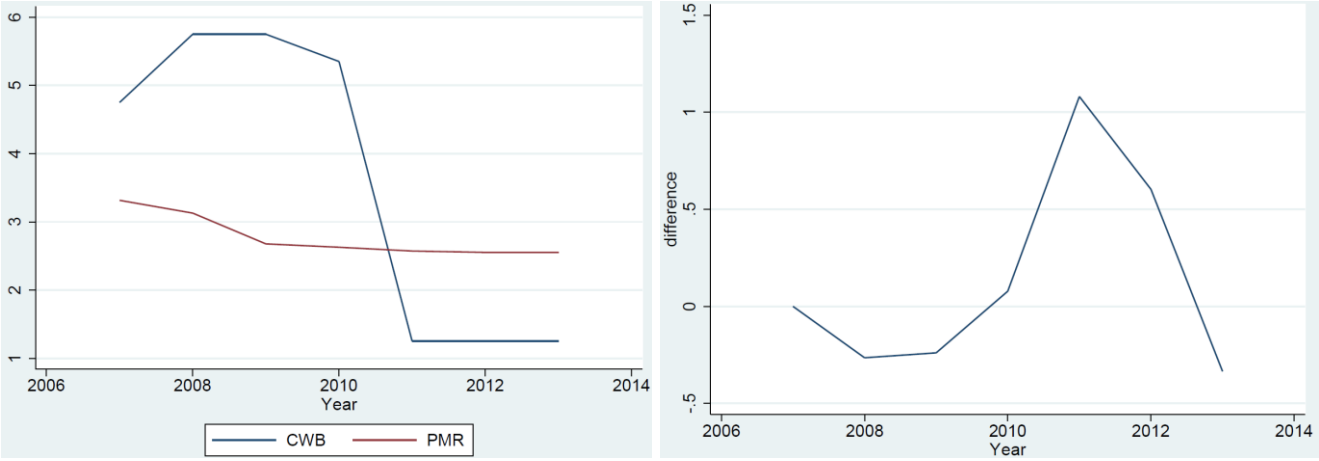


Figure 10: Reforms and Unemployment: Italy

Panel (a): CWB and PMR indicators

Panel (b): Difference between predicted Actual and Counterfactual Unemployment

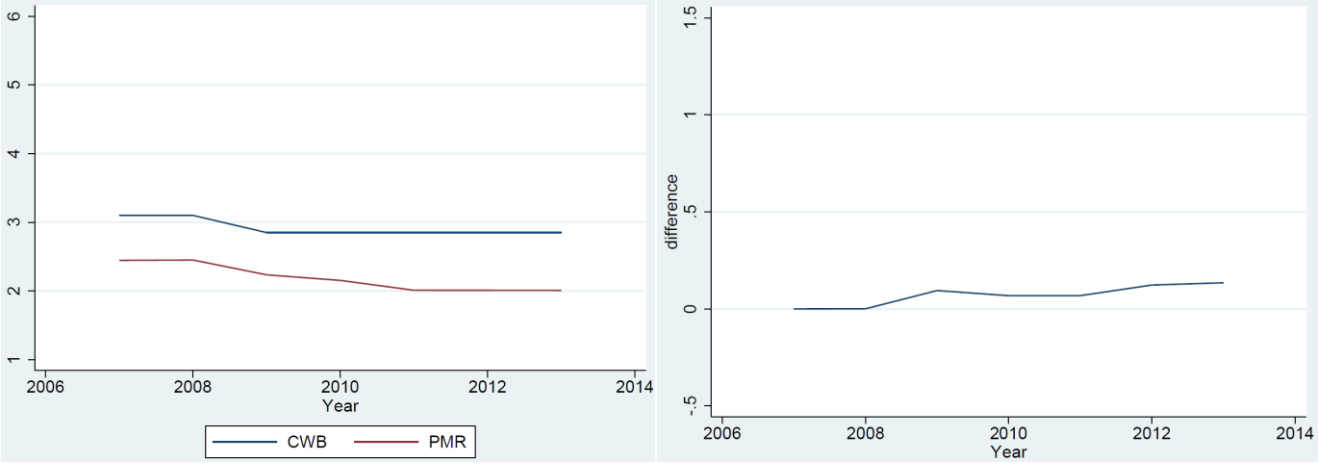


Figure 11: Reforms and Unemployment: Portugal

Panel (a): CWB and PMR indicators

Panel (b Difference between predicted Actual and Counterfactual Unemployment

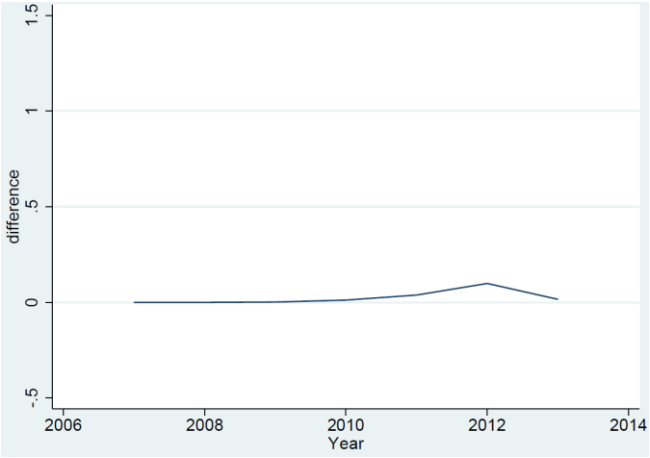


Figure 12: Reforms and Unemployment: Spain

Panel (a): CWB and PMR indicators

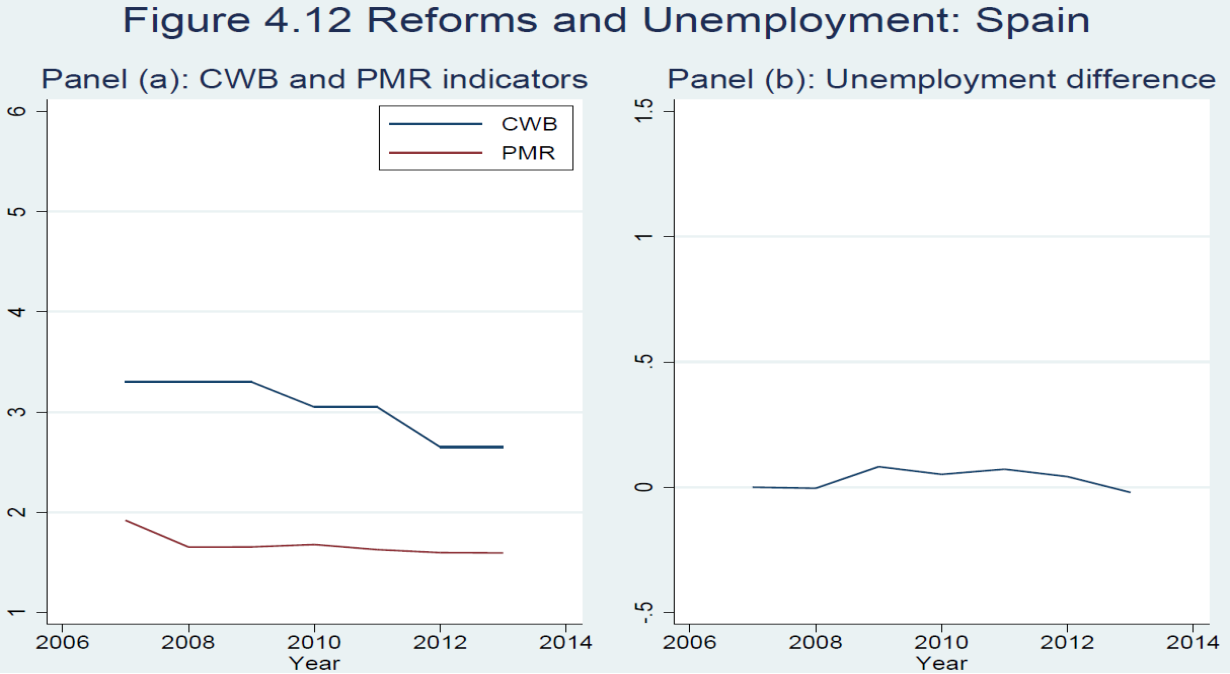
Panel (b): Difference between predicted Actual and Counterfactual Unemployment

Portugal:

The main labour market reforms implemented in Portugal are described in Chapter 6 of this book. Figure 11 shows the evolution of market regulation indicators as well as the actual and counterfactual unemployment gap in Portugal. The index of product market regulation declines steadily since 2008, while only in 2012, as a consequence of reforms, we observe a sharp decline of the wage centralization index, CWB. The estimated effects are relatively small: for 2012 we estimate an increase of the actual relative to the counterfactual unemployment rate of about a tenth of a percentage point. The difference is short lasting and almost disappears one year later.

Spain:

The main labour reforms implemented in Spain are described in Chapter 7. These reforms show up in a significant reduction on the index of centralization of wage bargaining, first in 2008 and later in 2011, while product market reforms result in a more gradual decline in the index of regulation since 2007, see Figure 12, left panel. The right panel of the figure shows that in correspondence with the reforms the unemployment gap slightly rises above that of the no-reform scenario, by about a tenth of a percentage point, but already in 2013 the effect is reversed and the unemployment rate falls below that of the no-reform scenario.



7. CONCLUSIONS

Southern European countries went through a very painful process of fiscal consolidation, debt and bank restructuring, credit squeeze and recession, and, under pressure from creditors, started an ambitious and politically sensitive program of reforms stretching from the public sector to credit, labor, and product markets. These countries experienced their worst recession since WWII, with unemployment soaring to unprecedented levels. The jury is still out on the role of austerity. Opinions differ also on the role structural reforms(see the discussion in the introductory chapter of this book). Some for example, consider that the reforms were insufficient, not fully implemented, or were not fully credible, while other critics blame them for being too radical, unfocused, wrongly sequenced, or counter-productive in terms of the short run effects on the economy. Given that many adverse shocks were affecting these economies at the same time, it not easy to isolate the role, if any, of the reforms.

And yet while unemployment soared in all Southern European countries during the crisis, the impact of the output squeeze on the labor market as well as the persistence of high unemployment rates differed sharply among countries, with Spain and Cyprus displaying the largest short run elasticity of unemployment to output, but also the fastest speed of adjustment, and the opposite in Greece, Italy and Portugal.

In this paper we analyze the response of the labor markets in the Eurozone. First, we document two important aspects of this response: the resilience of unemployment to output shocks, and the persistence of shocks to unemployment. We find that most countries of the Eurozone lie on a trade-off between resilience and persistence: countries where the rate of unemployment is less affected on impact, displaying thus higher resilience, typically also show higher unemployment persistence.

In order to isolate the effects of structural reforms on the working of the labor market, we investigate empirically the role of employment protection, centralization of wage bargaining and of product market institutions, in affecting unemployment as well as its dynamic response to shocks. We find evidence that more protected labor and product markets are characterized by more resilience at the expense of greater

persistence, while more competitive markets make employment more vulnerable to output shocks but also experience a faster recovery.

We estimate how much product and labor market reforms may have contributed to the rise of unemployment in Southern Europe, and/or to the faster/slower recovery, by comparing projection of unemployment gaps with an artificial counterfactual of no-reform, obtained by freezing labor and product markets to their pre-2008 situation. For Greece we find that the front-loaded labor market reforms introduced since 2010 account for one (extra) percentage point rise in the unemployment gap. The effect for other Southern European countries are smaller, also in the light of the less pronounced reforms implemented since 2008. The case for Greece is interesting because we also find that the reforms significantly entail a faster recovery relative to the counter-factual scenario, so that after only two years the rate of unemployment becomes lower and more rapidly falling than in the absence of reforms. This is true, although to a lesser extent, also for the other South European countries.

To some extent these results should not come as a surprise: the crisis that hit Southern European countries was unprecedented, summing the effects of harsh fiscal consolidations, sudden stops and current account reversals, wage deflation, sovereign and banks' defaults leading to credit crunches and ending in the worst recession of the post war era. Employment and unemployment changes were, to a first degree, driven by these factors. Our analysis has shown that degree of product and labor market competition can significantly affect the short-run resilience and the medium-run persistence of unemployment in these economies.

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APPENDIX: **An alternative specification**

In order to check for the robustness of our results we estimate an alternative specification for our model, summarized by equations (1). This replaces the unemployment gap and the (log) output gap with their respective first differences:

$$(1a) \quad u_{it} - u_{it-1} = \beta_i(y_{it} - y_{it-1}) + \alpha_i(u_{it-1} - u_{it-2}\ ) + v_{it} \qquad i = 1..C, \qquad t = 1,..T$$

Table A1 shows the impact, and persistence parameters based on estimating equation (1a) country by country.

Table A1. Okun Coefficients in the Eurozone (Difference regression)

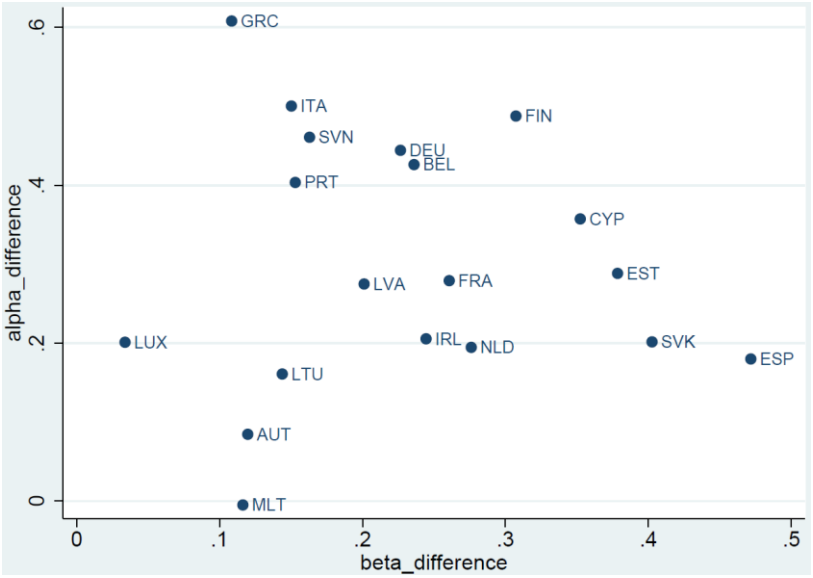
country	beta_19652015	alpha_19652015	Half_way
Austria	0.12***	0.08	0.28
Belgium	0.24***	0.43***	0.81
Cyprus	0.35***	0.36***	0.67
Estonia	0.38***	0.29***	0.56
Finland	0.31***	0.49***	0.97
France	0.26***	0.28***	0.54
Germany	0.23***	0.44***	0.85
Greece	0.11***	0.61***	1.39
Ireland	0.24***	0.21	0.44
Italy	0.15***	0.50***	1.00
Latvia	0.20***	0.27	0.54
Lithuania	0.14***	0.16	0.38
Luxembourg	0.03***	0.20	0.43
Malta	0.12***	0.00	
Netherlands	0.28***	0.19*	0.42
Portugal	0.15***	0.40***	0.76
Slovakia	0.40***	0.20	0.43
Slovenia	0.16***	0.46***	0.89
Spain	0.47***	0.18*	0.40

Notes: Alpha in absolute value. *** significant at 1%; ** significant at 5%; * significant at 10%. Source: Authors' calculations.

In this specification, countries differences in the impact and persistence parameters are less pronounced than before, but still exhibit a trade-off. According to Table A1, the impact of output change on unemployment change is highest in Spain, Slovakia, Estonia and Cyprus where a 1 percent output fall relative to previous period is associated, within a year, to about 0.40 of a percent rise in the unemployment difference. The response of unemployment is lowest in Luxembourg, Greece, Austria and Italy. It is also interesting to see that Greece and Italy are also the countries where unemployment rebounds relatively slowly (High α_i). In Greece, it takes more than a year to halve the unemployment shock, whereas in Italy it takes exactly one year.

The "trade-off" picture corresponding to these new estimates shown in Figure A1.

Figure A1: Trade-off between impact and persistence (difference regression)



In the new specification, the countries are less heterogeneous in terms of their impact and persistence coefficients. Some countries (Austria, Lithuania and Luxembourg in addition to Malta) seem to lie off the trade-off curve. However, countries like Spain Slovakia Cyprus, and Finland still appear as displaying among the largest impact and the smallest persistence coefficients, as with our previous model; similarly, Italy, Slovenia, Portugal and Greece continue to be characterized by very large persistence and very low impact effects. After removing the countries which have insignificant alpha coefficient, we obtain a correlation and rank correlation between the new estimated parameters which are similar to the previous ones, respectively 0.65 (significant at 4%) and 0.61 (significant at 6%).

Table A2 contains the estimation results of the second step, where we consider all countries jointly, and allow the coefficients to depend on labor and product market indicators. In practice here we use the specification with first differences, equation (1a) above, together with equation (2) and estimate the following equation:

$$(1b?)\ u_{it} - u_{it-1} = (\beta_0 + \beta_1 IND_{it})(y_{it} - y_{it-1}) + (\alpha_0 + \alpha_1 \mathrm{IND}_{it-1})(u_{it-1} - u_{it-2}) + (c_0 + c_1 \mathrm{IND}_{it}) \quad + \ v_{it}$$

As in the previous analysis, we start without any market indicator in column 1. The result is that GDP growth and lag unemployment change have respectively significant negative and positive impacts on unemployment change. We introduce PMR indicator in column 2. It appears that greater rigidity in the product market decreases the impact of economic growth on the unemployment change. However, there is no significant relationship between PMR and unemployment persistence. Column 3 shows that the coefficients of EPL become insignificant at the standard confidence levels. Regarding the CWB, we find in column 4 that CWB rigidity tends to reduce the impact effect of output growth on unemployment. The interaction of CWB with lagged unemployment is of the expected positive sign, so that rigidity raises persistence, but it is only

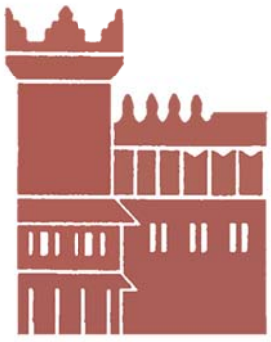
marginally significant (0.12 p-value). Also, we find a negative level effect of CWB on the unemployment change. We introduce both CWB and PMR in column 5. Here we have that the coefficients of the interaction of PMR with GDP growth is positive and significant, suggesting that, as before, a more regulated product market alleviates the negative impact of negative GDP shocks. However, the parameter estimate of the interaction of the lagged unemployment change-CWB changes sign relative to column (4), now suggesting that a more centralized system reduces the unemployment persistence. In general, the new specification with first differences has lower p-values relative to "gap" specification.

Table A2: Okun analysis with market indicators (Dependent variable: unemployment change)

	(1) model1	(2) model2	(3) model3	(4) model4	(5) model5
GDPgrowth	-0.136***	-0.342***	-0.236***	-0.252***	-0.310**
	(0.022)	(0.090)	(0.087)	(0.056)	(0.137)
Unemployment change (t-1)	0.391***	0.516***	0.284*	0.263***	0.619***
	(0.039)	(0.106)	(0.157)	(0.089)	(0.151)
PMR		0.028			0.015
		(0.078)			(0.082)
GDPgrowth*PMR		0.044**			0.047**
		(0.019)			(0.020)
Unemployment change (t-1)*PMR		-0.022			-0.010
		(0.026)			(0.030)
EPL			-0.012		
			(0.081)		
GDPgrowth*EPL			-0.005		
			(0.019)		
Unemployment change (t-1)*EPL			0.061		
			(0.066)		
CWB				-0.156**	0.035
				(0.065)	(0.074)
GDPgrowthxCWB				0.026*	-0.014
				(0.014)	(0.025)
Unemployment change (t-1)xCWB				0.040	-0.049**
				(0.026)	(0.019)
Constant	0.078	-0.120	-0.004	0.500*	-0.220

	(0.219)	(0.301)	(0.221)	(0.296)	(0.270)
Observations	736	500	347	689	495
R^2					

Note: All regressions are estimated with Random Effects with year fixed effects. *significant at 10%, **= significant at 5%, ***=significant at 1%



Alma Mater Studiorum - Università di Bologna
DEPARTMENT OF ECONOMICS

Strada Maggiore 45
40125 Bologna - Italy
Tel. +39 051 2092604
Fax +39 051 2092664
http://www.dse.unibo.it